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Remarks

Claims 1-13 are pending in this application. Claim 5 has been amended. The Examiner has rejected claims 1, 2 and 5-13 and has objected to claims 3 and 4 as depending from rejecting claims. The Examiner has rejected claim 5 under 35 U.S.C. § 112, ¶ 2 as lacking an insufficient antecedent basis for a limitation in the claim. The Examiner has also rejected claims 1, 2, 5, 6, 9 and 11-13 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,794, 729 to Mori et al. Finally, the Examiner has rejected claims 7, 8, and 10 under 35 U.S.C. 103(a) as being obvious in light of Mori et al.

The Examiner has declared claims 3 and 4 to be allowable if rewritten in independent form so as not to depend from a rejected base claim and to include all of the limitations of the rejected base claim and any intervening claims.

In addition, the Examiner has objected to certain informalities in the Specification and has also objected to the drawings. Finally, the Examiner has acknowledged applicant's claim for foreign priority based on an application filed in the United Kingdom, but has requested a certified copy of that application.

In view of the amendments and remarks herein, the undersigned respectfully requests reconsideration of these rejections and submits that the application is now in condition for allowance.

Priority

Enclosed with this Response is a certified copy of UK Patent Application No. 0302735.6. Please file this document as required by 35 U.S.C. § 119(b).

Drawings

Figures 1a-b and 2a-b have been designated by the legend “Prior Art” as requested by the Examiner. Also all of the drawings have been replaced by drawings that clarify the shading scheme as requested by the Examiner. The Applicant respectfully submits that the replacement drawings thereby overcome the Examiner’s objections to the original drawings as filed.

Specification

Headings have been added to the specification to demarcate the various sections of the disclosure. Also, an informality objected to by the Examiner has been corrected. The Applicant respectfully submits that these amendments to the Specification suffice to overcome the Examiner’s objections.

Rejection of Claim 5 under 35 U.S.C. § 112, ¶ 2

The Examiner has rejected claim 5 for lacking a sufficient antecedent basis for the limitation “the intersect regions.” Claim 5 has been amended to replace “intersect regions” with “lattice” for which claim 1, from which claim 5 depends, does provide sufficient antecedent basis. On the basis of this amendment, the Applicant respectfully requests that the Examiner withdraw this rejection.

Rejection of Claims 1, 2, 5, 6, 9, and 11-13 under 35 U.S.C. § 102(e)

The Examiner has rejected claims 1, 2, 5, 6, 9, and 11-13 under 35 U.S.C. § 102(e) as being anticipated by Mori et al. Respectfully, the Applicant strongly disagrees with the Examiner’s assertion that Mori anticipates the present invention. The Applicant does not believe

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that Mori discloses an electrical component structure comprising a plurality of overlying substantially parallel layers, where each layer is a lattice formed from orthogonally arranged and electrically connected conductive tracks, provided with conductive islands in the windows of the lattice, which are electrically connected to the lattice of an adjacent layer, as claimed in independent claims 1, 12, and 13. The Applicant's reasons for disagreeing with the Examiner on this point become apparent by consideration of the drawings presented below.

Figure 1 below is a drawing prepared by Applicant of the stacked capacitor of Mori et al. It combines Figures 2A, 2B and 2C of Mori et al into a single drawing. More particularly, the upper surface of the capacitor 8 shown in the drawing corresponds to Figure 2A, the front surface corresponds to Figure 2B, and the right hand surface corresponds to Figure 2C. Note that the drawing actually shows the

capacitor in an upside down position, as the electrodes formed on the surface shown in Figure 2A of Mori et al are on the bottom surface of the capacitor. Therefore, when comparing the front and right side representations of the capacitor with Figures 2B and 2C, bear in mind that it will be necessary to consider Figure 2B and 2C upside down.

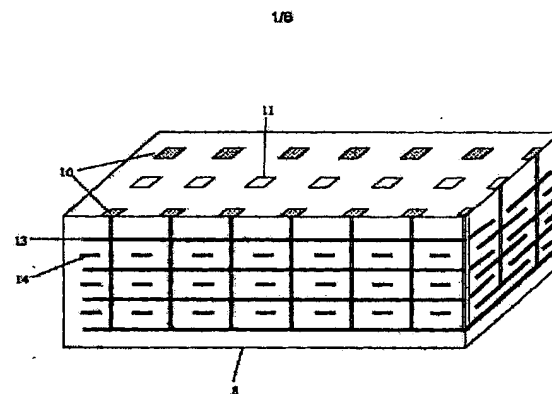


Figure 1 - US 6,794,729 Figs 2A-2C
combined

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With reference to the enclosed Figure 1 and Figures 2A, 2B and 2C of Mori et al, it will be seen that the capacitor of Mori comprises a plurality of electrode layers 13 and 14, connected by vertical vias to electrodes 10 and 11 formed on the bottom surface of the capacitor. In the cross section of Figure 2B (i.e. the front wall of our drawing) the layer 13 is shown as a continuous layer, whereas the layer 14 is shown as a broken layer between the vertical vias. In contrast, in Figure 2C (the right hand wall of our drawing) both layers 13 and 14 are broken about the vertical vias extending from the electrodes. It should be noted that the cross sections of Figures 2B and 2C are taken through the electrodes and hence the vertical vias extending vertically therefrom.

Contrary to the Examiner's position, the layer arrangement shown in Figures 2B and 2C does not illustrate a lattice arrangement as in the present invention. This is because with the lattice arrangement as claimed in the present invention there would be no difference in the cross section depending upon the direction in which the cross section was taken through the arrangement. In particular, although a cross section through a lattice arrangement as in the present invention could, depending on the precise arrangement and thickness of the vias etc produce a cross section identical to that shown in Figure 2B, a cross section in the orthogonal direction would also produce an identical arrangement. Thus, in a lattice arrangement such as the present invention a cross section in either orthogonal direction would produce an arrangement similar to that of Figure 2B, wherein each alternating layer presented a continuous layer in both cross sections, the interdigitated layers being broken in both cross sections. That this is so will

become apparent from a consideration of the other drawings which we have provided relating to the present invention.

More particularly, Figure 2 below illustrates a slight perspective view of a lattice arrangement falling within the scope of the present invention. Here, a first lattice layer is shown offset to a substantially parallel and underlying second lattice layer. Vertical vias are shown connecting the islands of the upper lattice layer with the intersects of the underlying lattice layer. Note that for clarity not all of the vias between each island and each intersect are shown.

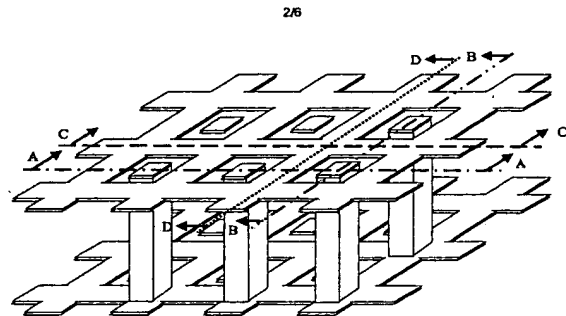


Figure 2 - Embodiment of Invention

With the above in mind, enclosed Figure 3 illustrates cross sections of the embodiment of the invention shown in Figure 2, taken along the lines AA and BB respectively looking in the directions of the arrows. From these cross sections, it will be seen that a cross section taken in either direction presents one of the layers as a broken layer, but the other of the layers as a continuous layer.

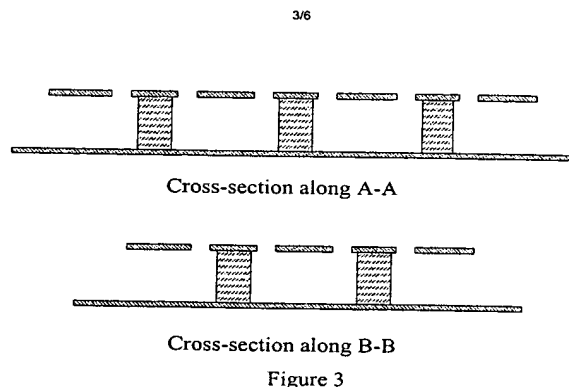


Figure 3

Moreover, this distinction becomes clearer if an arrangement is considered such as that of Figure 5 of the present application, wherein multiple overlying layers are provided connected by vertical vias. In such a case a cross section along a line AA is shown in the enclosed Figure 4, and a cross section along an orthogonal line BB of such a multiple layer arrangement shown in the enclosed Figure 5. From enclosed Figures 4 and 5 it can be seen that such an arrangement leads to a cross section wherein alternating layers present continuous layers in both orthogonal views, as would be expected.

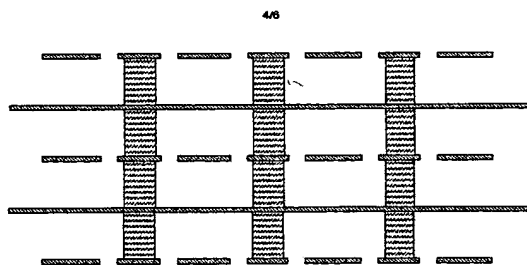


Figure 4 - Multiple layer
Cross-section along A-A

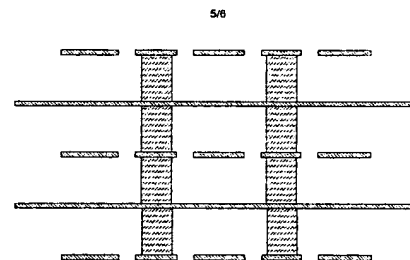


Figure 5 - Multiple Layer
Cross-section along B-B

Moreover, Figure 6 illustrates the cross-sections taken at the “half-pitch” points in the upper lattice between the islands along the lines C-C and D-D and looking in the direction of the arrows. From Figure 6 it will be seen that at these points also the above described arrangement holds true i.e. that alternating layers are

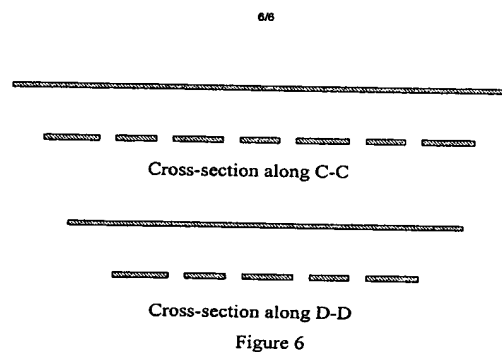


Figure 6

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continuous, the inter-digitated layers being broken.

With reference to Figures 2A to C of Mori, together with our combined drawing thereof, it will be seen that Mori et al. do not disclose a lattice as claimed in the present invention. More particularly, whereas Figure 2B depicts a cross section consistent with a lattice, the orthogonal cross section of Figure 2C does not, as it shows that in fact every layer is broken by the vias. This broken cross section would not arise with a lattice as claimed in the present invention . Therefore, Figures 2A to C of Mori et al do not describe a lattice arrangement as claimed in the present independent claims.

Please note that the exact layer arrangement of Mori et al cannot be definitively determined, as no view is shown of any of the actual layers other than the orthogonal cross sections. Given the orthogonal cross sections present in Figures 2B and 2C there could be several different layer arrangements which would present such cross sections. However, lattice arrangement as claimed in the present invention would not present such cross sections, as discussed. For these reasons, the Applicant respectfully requests that the Examiner withdraw the rejections.

Rejection of claims 7, 8, and 10 under 35 U.S.C. 103(a)

The Examiner has rejected claims 7, 8, and 10 under 35 U.S.C. § 103(a) as being obvious in light of Mori et al. as applied to claims 1, 2, 5, 6, 9, and 11-13. Claims 3 and 4 depend either directly or indirectly from claim 1. Because, as discussed above, Mori does not teach the underlying base claim, the Applicant sincerely believes that the rejections cannot stand and respectfully requests the Examiner to withdraw them.

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Allowable Subject Matter

The Examiner has objected to claims 3 and 4 as depending from a rejected base claim and further stated that they would be allowable if appropriately amended in independent form. The Applicant thanks the Examiner for finding these claims allowable. However, as stated above, the Applicant sincerely believes that the underlying base claim is in form for allowance and therefore has not amended claims 3 and 4.

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Conclusion

If the Examiner believes that there are any issues that can be resolved by a telephone conference, or that there are any informalities that can be corrected by an amendment, please phone the undersigned at 404-815-6061.

Applicant believes that no fees are due for this amendment. However, the Commissioner is hereby authorized to charge any deficiencies or credit any overpayment to Deposit Account No. 11-0855.

Respectfully submitted,



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